

Site: Shiloh Church Road Site

Task: Excavation

Date: 9/25/2019

Predicted Predominant Wind Direction: NW

Predicted Maximum Wind Speed: 12 mph



Ludlum 3030 Serial Number:	187982	Cal Due Date:	2/19/2020
Th-230 4π efficiency:	0.3244	Tc-99 4π efficiency:	0.3155
Pu-239 4π efficiency:	0.3996	C-14 4π efficiency:	0.0679
Am-241 4π efficiency:	0.3452	Sr-90 4π efficiency:	0.4264

Notes: AC-5 assigned to Excavation Team.

Radionuclide Air Sampling
Daily Summary
Shiloh Church Road Site
Halifax County, Virginia

Date: 9/25/2019

Predicted Predominant Wind Direction: NW

Public Results

Effluent Limits	Alpha (Ra-226)	9.00E-13	Beta (Pb-210)	6.00E-13
Air Sampler Location	% Of Effluent Concentration Limit	Alpha Result (μCi/mL)	% Of Effluent Concentration Limit	Beta Result (μCi/mL)
Perimeter-1 - South Break Area	<1.88%	-6.83E-15	<89.16%	2.05E-13

Worker Results

Derived Air Concentrations	Alpha (Ra-226)	3.00E-10	Beta (Pb-210)	1.00E-10
Tasks Monitored	% Of Derived Air Concentration	Alpha Result (μCi/mL)	% Of Derived Air Concentration	Beta Result (μCi/mL)
AC-5 - Excavation Team	<0.10%	2.06E-13	<9.63%	-3.19E-12

Comments:

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Air Sampling Unit: F&J LV-1

Calibrator Serial: 3067

Cal Due Date: 1/21/20

Calibrator Serial: 3067					Cal Due Date: 1/21/20					α isotope of concern				Ra-226		β isotope of concern				Pb-210	
Pre Flow Rate (LPM)		79.9								Post Flow Rate (LPM)					77.0						
Start Date/Time		9/25/19 8:15								Stop Date/Time					9/25/19 17:24						
										Total Liters					40637.1						
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
10/2/19 12:15		162.8	120	60	88	32	-0.2	1.69E-14	-6.83E-15	4641	2396	1.26	5.35E-13	2.05E-13							
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
10/2/19 12:15		162.8	120	60	88	32	-0.2	1.69E-14	-6.83E-15	4641	2396	1.26	5.35E-13	2.05E-13							
								% Eff Criteria:	<1.88%					% Eff Criteria:	<89.16%						

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Air Sampling Unit: AirCheck XR5000 AC-5

Dry Cal Serial: 132112

Cal Due Date: 7/11/20

Dry Cal Serial: 132112					Cal Due Date: 7/11/20					α isotope of concern				Ra-226		β isotope of concern				Pb-210	
Pre Flow Rate (LPM)		4.632					Post Flow Rate (LPM)					4.849									
Start Date/Time		9/25/19 8:30					Stop Date/Time					9/25/19 17:02									
							Total Liters					2304.0									
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
9/26/19 14:08		21.1	120	60	91	66	0.34	3.03E-13	2.06E-13	4841	2354	-1.11	9.63E-12	-3.19E-12							
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
9/26/19 14:08		21.1	120	60	91	66	0.34	3.03E-13	2.06E-13	4841	2354	-1.11	9.63E-12	-3.19E-12							
								% DAC:	<0.10%					% DAC:	<9.63%						

Notes: Assigned to Excavation Team.